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FACSIMILE COVER SHEET

DATE: Aug. 5, 2003

TO: Examiner Cross

FROM: Arthur Morgenstern

Our File: CHEMM-101XX

Your Ref: Ser. No. 09/350,466

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MESSAGE

Examiner Cross:

The attached is for our telephone interview scheduled at 1PM today.

Sincerely yours,



Arthur S. Morgenstern  
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294425

N.B. Haas uses the word "layers" to refer to the two component sheets of his invention. Each of these is composed of several individual "layers" in the sense used in the ChemMotif application.

## Haas Figure 1

no chemical detection event  
no solid in dye layer  
time response begins as soon as 12 & 14 are adhered  
dye moves as a result of presence of activator (plasticizer)

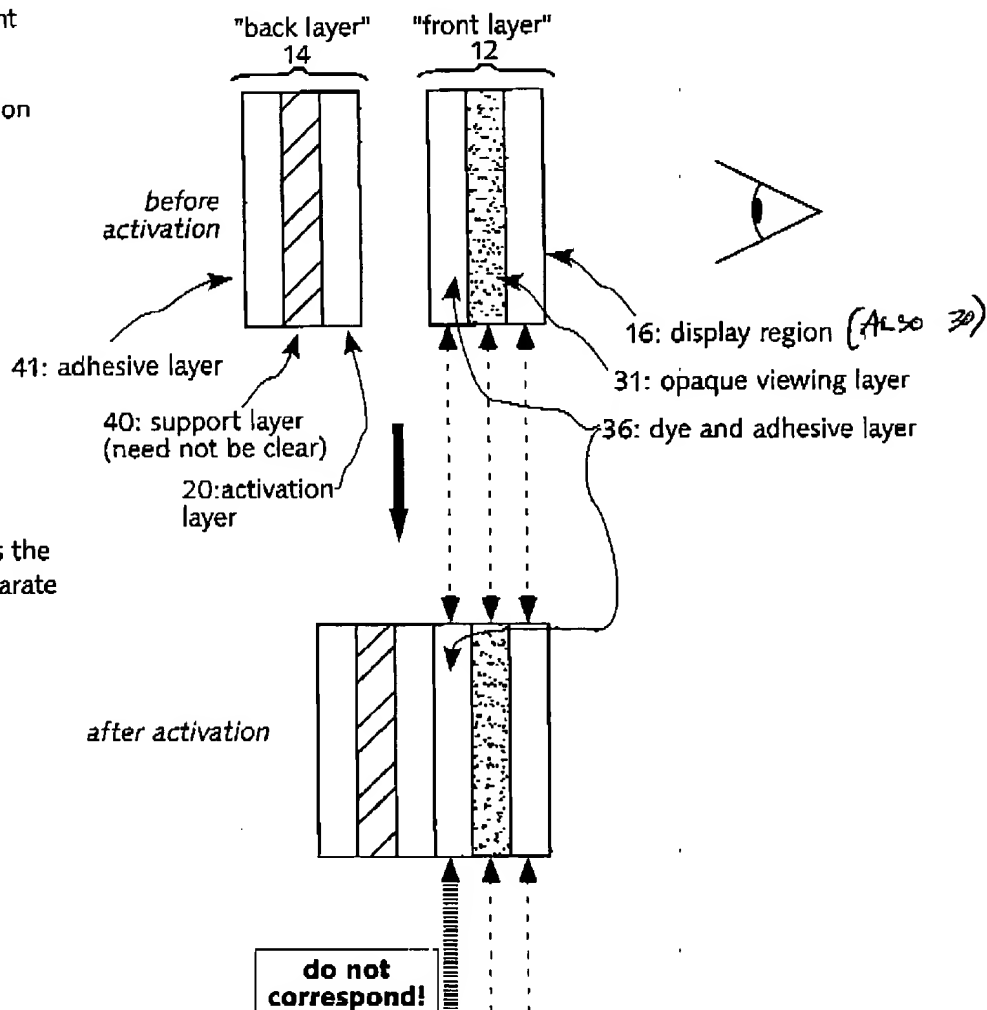
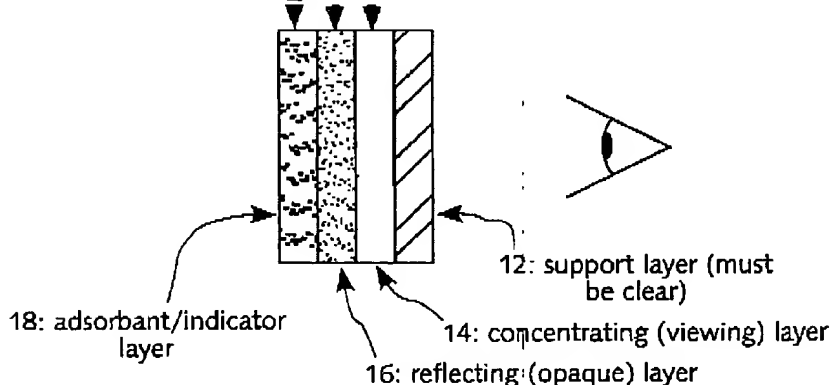


Figure 5 of Haas separates the dye and adhesive into separate layers but is functionally equivalent to Figure 1

## ChemMotif Figures 1 & 2:

no separate activation layer  
stable as single unit until exposed to external analyte  
solid adsorbent in dye layer is critical component in desorption process  
dye is immobile in presence of plasticizer/solvent until analyte causes dye desorption  
Neither Haas nor Burleigh contemplate a competitive adsorption/desorption process as a chemical sensing mechanism



INSTANT APPLICATION CORRESPONDING LAYER:

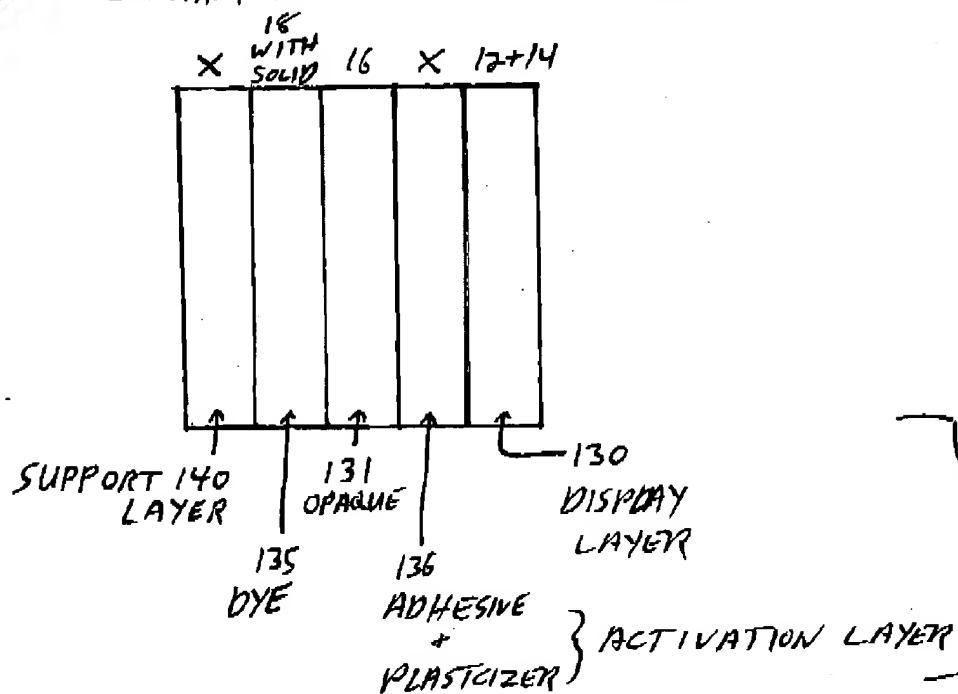
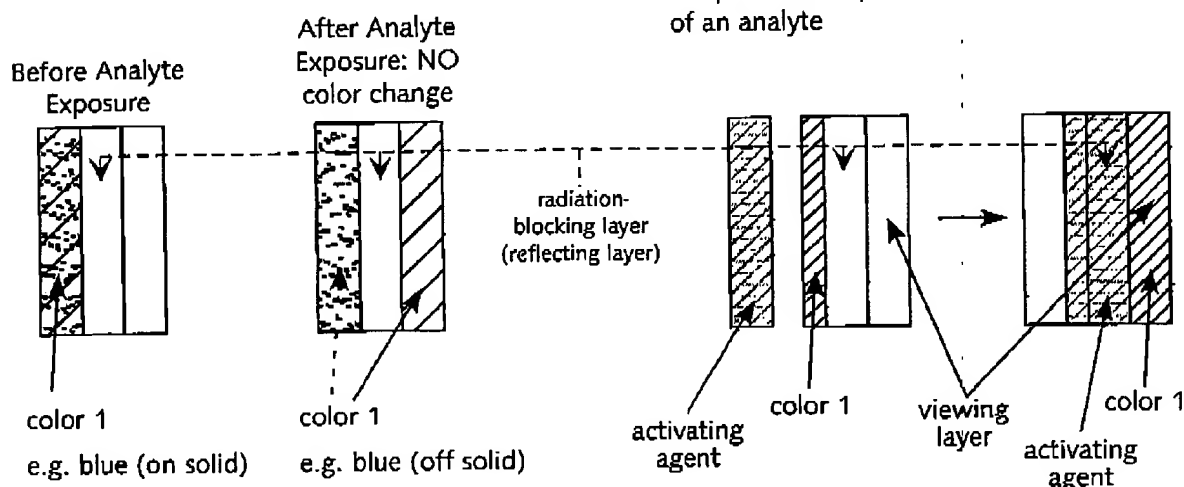
HAAS FIGURE 5  
NUMBERING

FIGURE A

## Summary of Detection Mechanisms

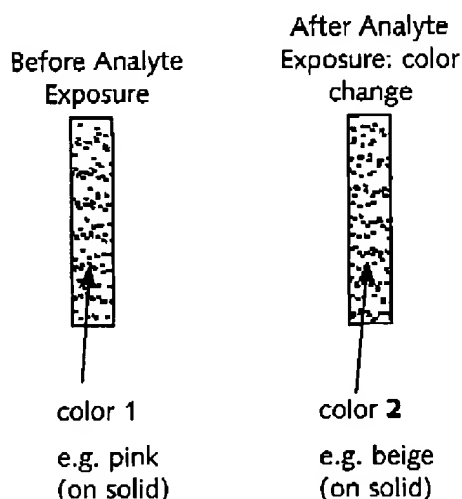
reference	dye desorbable by target analyte	solid present in dye layer	presence of plasticizer causes dye migration	detects elapsed time	detects chemical analyte
instant application	Y	Y	N	N	Y
Haas	N	N	Y	Y	N

ChemMotif invention: analyte class sensing involves **n** chemical change—solid adsorbent is not merely support for indicator but is fundamental component of detection process



Haas: cause for dye movement is adhering of activating agent layer to rest of composition; no analyte is measured, only time & temperature. In relation to the ChemMotif sensor, Haas is responding to the presence of plasticizer, not the presence of an analyte

Burleigh: analyte **reaction** produces color change; single layer; solid support present but **not** involved in detection process



Burleigh + Haas:

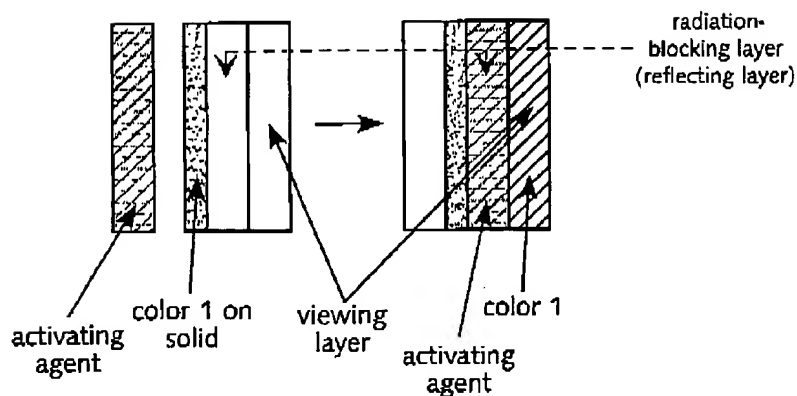
Case 1: dye on solid is mobilized by plasticizer, in which case no analyte detection can take place since dye moves to viewing layer independent of presence of analyte when activating layer containing plasticizer is mated with it

Case 2: dye on solid is not mobilized by plasticizer before or after reaction with analyte; no transfer of dye to viewing layer occurs

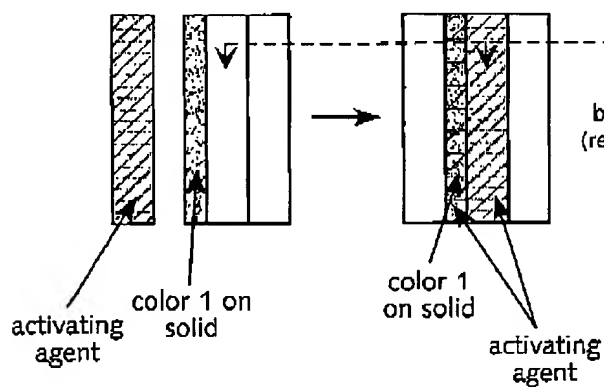
Case 3: dye on solid is not mobilized by plasticizer until reaction occurs; chemical **reaction** with analyte is required for mobilization; desorption is caused by plasticizer, not analyte; solid support is present but **not** involved in detection process

(Figures next page)

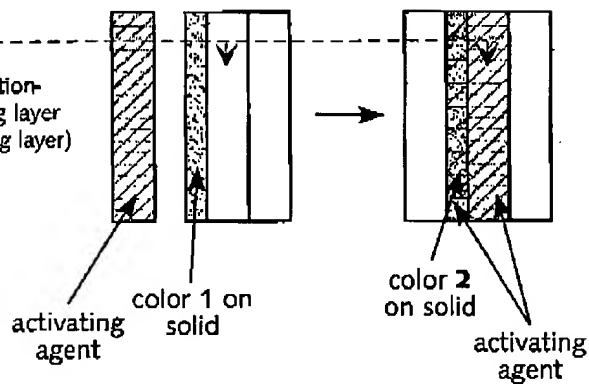
Case 1: with or without analyte exposure



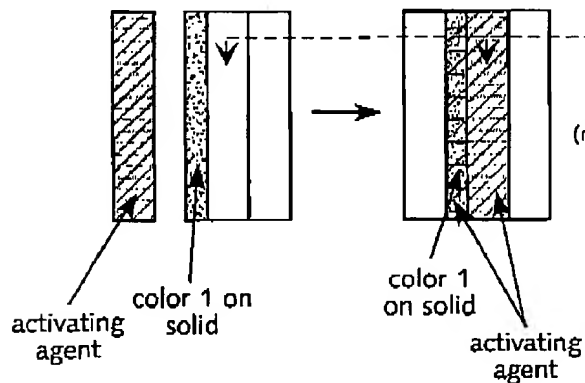
Case 2: without analyte exposure



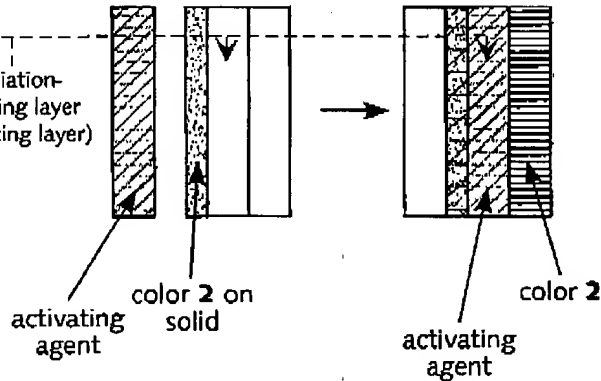
Case 2: with analyte exposure



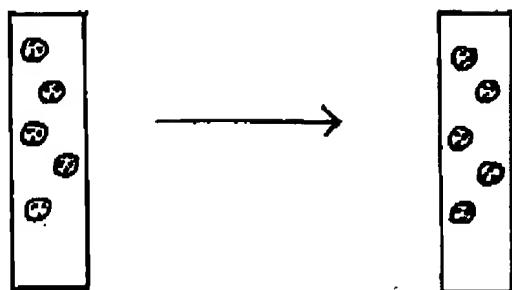
Case 3: without analyte exposure



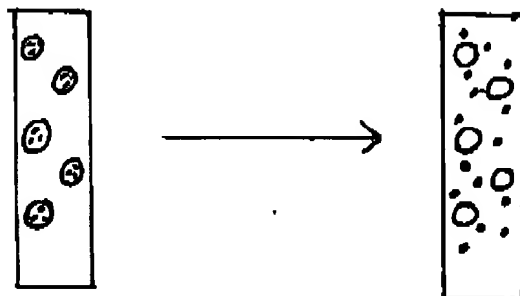
Case 3: with analyte exposure



BURLEIGH



IN STANT INVENTION



dye comes  
off of the ~~solid~~ solid

FIGURE B

## Summary of Detection Mechanisms

reference	movement of indicator dye	cause of dye migration	color change	solid present	solid involved in analyte response	chemical reaction required
instant application	Y	target analyte	N	Y	Y	N
Haas	Y	time	N	N	N	N
Burleigh	N	N/A - no migration	Y	Y	N	Y
Burleigh + Haas	Y	no migration*: color change in layer containing solid	Y	Y	N	Y

\* This represents Case 2 above